

Mesothelioma

Mesothelioma is a rare type of cancer. Malignant (cancerous) cells develop in the mesothelium, the protective sac that covers most of the body's internal organs. Mesothelioma generally starts in the outer membrane of the lungs (pleura), but can also occur in the lining of the abdominal cavity (peritoneum). Uncommonly, the heart or reproductive organs may be affected. Treatment depends on where the cancer is found and whether it has spread.

Currently there is no cure for mesothelioma unless it can be removed by surgery. Unfortunately, by the time mesothelioma is diagnosed it has usually already spread beyond the point where it can be surgically removed. If this is the case, treatment will aim to prolong life and keep the person as comfortable as possible.

Mesothelioma is almost always caused by exposure to asbestos and can develop decades after the exposure.

The role of asbestos

Asbestos is the name of a group of minerals that was once widely used for its fire-resistant and insulating properties. Due to health risks, it is no longer mined, milled or manufactured in Australia. All uses of asbestos in new products are now banned in Australia and no asbestos products may be imported. Strict precautions also govern the removal and disposal of asbestos and asbestos-containing materials.

Mesothelioma is common in Australia

Australia has one of the highest rates of mesothelioma in the world. This is due to the high rate of asbestos use and mining over many years. In 2007 there were nearly 600 people diagnosed with mesothelioma in Australia. Of these new cases, 81 per cent were men.

In Victoria in 2009 there were nearly 150 cases diagnosed. Experts believe the number of people diagnosed with asbestos-related diseases will not peak until 2020, with a possible 13,000 more new cases of mesothelioma in Australia each year.

How mesothelioma spreads

Malignant cells develop in the mesothelium. This protective sac has different names, depending on its location in the body. Those most commonly affected by mesothelioma are:

- **Visceral pleura** – the membrane that surrounds the lungs
- **Parietal pleura** – the membrane that lines the chest wall
- **Peritoneum** – the membrane that forms the lining of the abdominal and pelvic cavities.

Mesothelioma most often starts in the pleura. Normally, the two pleura touch and slide across each other while we breathe and this is lubricated by a slick of fluid. In cases of pleural mesothelioma, the pleura make more fluid than necessary, which presses on the lung (pleural effusion). Mesothelioma usually develops in only one lung. The tumour tends to grow across the lung until the entire organ is encased.

It is not clear how asbestos fibres get into the peritoneal cavity. It is unlikely they come through the wall of the gut. However, they may come through the diaphragm.

Sometimes cancer cells migrate to lymph nodes and other areas of the body (such as the unaffected lung) via the lymphatic system. Uncommonly, the heart or reproductive organs may be affected.

Symptoms of mesothelioma – lungs

Symptoms of pleural mesothelioma include:

- Breathlessness
- Dry cough
- Pain.

Symptoms of mesothelioma – peritoneum

Symptoms of peritoneal mesothelioma include:

- Painful abdomen
- Swollen abdomen
- High temperature
- Nausea and vomiting
- Bowel problems
- Urinary problems.

Symptoms of mesothelioma in the later stages

Symptoms in the later stages of the disease include:

- Sudden and unexplained weight loss
- Spitting up sputum (mucus)
- Spitting up blood
- Swallowing problems
- Hoarseness.

High-risk groups

The primary risk factor for mesothelioma is asbestos exposure. The disease is rarely seen in young people. Since mesothelioma can take as long as 40 years to develop, the incidence tends to rise following middle age. High-risk groups include anyone who has worked with asbestos – in jobs such as asbestos mining, milling and manufacture or in the construction, power and shipbuilding industries. Others at risk are their close family or household members, for example, those who washed their work clothes.

Smoking greatly increases the risk of lung cancer in a person who has been exposed to asbestos. Most asbestos-related lung cancers are attributable to the combined effects of asbestos and tobacco smoke.

Diagnosis of mesothelioma

The symptoms of mesothelioma may be caused by this condition or may be due to other, less serious conditions. It is important to see a doctor about any symptoms. Only a doctor can make a diagnosis.

Diagnosis of mesothelioma may include:

- Medical history, including history of asbestos exposure
- Physical examination
- Blood tests
- Chest x-rays
- Computed tomography (CT) scans
- Drainage and laboratory analysis of the pleural fluid
- Tissue sample (biopsy) to help differentiate mesothelioma from another condition known as 'benign asbestos related pleural disease'.

Test results can take a few days to come back. It is very natural to feel anxious waiting to get your results. It can help to talk to a close friend or relative about how you are feeling. You can also contact the Cancer Council Helpline on 13 11 20 and speak with a cancer nurse.

Treatment of mesothelioma

Treatment depends on the type of mesothelioma, the stage (extent) of disease and the person's preference. Options may include:

- **Pleurectomy** – surgery to remove the affected tissue. The affected lung may also be removed in whole (pneumonectomy) or in part (lobectomy). Usually only small tumours are treated with surgery. A person's life span may be prolonged for a few months or years.
- **Phototherapy** – a procedure sometimes used during pleurectomy. Stray cancer cells within the chest are highlighted with special dye and killed by laser.
- **Thoracentesis** – a procedure that removes fluid from the pleural cavity through a needle inserted between the ribs.
- **Pleurodesis** – a special powder is inserted between the pleural layers to cause inflammation and stop production of excess fluid. This is performed using a slender instrument (endoscope) inserted into the chest.
- **Paracentesis** – a procedure in which a thin needle or tube is put into the abdomen to remove fluid from the peritoneal cavity (the space within the abdomen that contains the intestines, the stomach and the liver).
- **Peritoneal surgery** – surgery to remove tumours in the abdominal cavity. Bowel symptoms can often improve following this procedure.
- **Chemotherapy** – the use of cancer-killing drugs that can shrink the cancer and ease symptoms. Chemotherapy is often recommended if the cancer has returned following other treatment or if other treatments are inappropriate.
- **Radiotherapy** – x-ray treatment to kill cancer cells. Only small areas can be treated or else the healthy cells of the lungs, heart and liver may be damaged. Radiotherapy is often used to ease pain and breathlessness.
- **Complementary and alternative therapies** – when used alongside your conventional cancer treatment, some of these therapies can make you feel better and improve quality of life. Others may not be so helpful and in some cases may be harmful. It is important to tell all your health care professionals about any complementary medicines you are taking and never stop taking your conventional treatment without consulting your doctor first. Details of the Cancer Council Victoria's booklet *Complementary and alternative cancer therapies* are in the **Where to get help** section.

All treatments can cause side effects. Many of these are only temporary but some may be permanent. Your medical team will discuss these with you before you begin treatment.

When a cure isn't possible

If mesothelioma has been diagnosed in its later stages, the cancer may have spread to the point where a cure is no longer possible. Treatment then focuses on improving quality of life by relieving the symptoms (this is called 'palliative' treatment). Treatment options at this point may include medications to relieve pain, nausea and vomiting.

Caring for someone with cancer

Caring for someone with cancer can be a difficult and emotional time. If you or someone you know is caring for someone with mesothelioma they may find it helpful to download and read some of the Cancer Council Victoria booklets.

Where to get help

- Your doctor
- Asbestos Diseases Foundation of Australia Tel. (02) 9637 8759
- Asbestos Diseases Society of Australia Tel. 1800 646 690
- Cancer Council Helpline Tel. 13 11 20
- Multilingual Cancer Information Line, Victoria Tel. (03) 9209 0169
- Cancer Council Victoria's booklet *Caring for someone with cancer*
- Cancer Council Victoria's booklet *Complementary and alternative cancer therapies*
- Peter MacCallum Cancer Centre Tel. (03) 9656 1111
- WorkSafe Victoria Tel. (03) 9641 1444 or 1800 136 089 (toll free) – for general enquiries

- WorkSafe Victoria Emergency Response Line Tel. 13 23 60 – to report serious workplace emergencies (24/7)
- Environment Protection Authority Victoria Tel. (03) 9695 2722
- Department of Health, Environmental Health Unit Tel. 1300 761 874
- Asbestos Victims Association South Australia Tel. (08) 8212 6008 or 1800 665 395 (SA country only)
- Asbestos Diseases Society of Victoria – Information, Support and Counselling Service Tel. (03) 9329 9584 or 1300 659 226

Things to remember

- Mesothelioma is a rare type of cancer that can develop decades after exposure to asbestos.
- Mesothelioma usually targets the outer membrane of the lungs (pleura) but can also occur in the membrane lining of the abdominal cavity (peritoneum). Uncommonly, the heart or reproductive organs may be affected.
- Unless surgical removal is an option there is no cure – treatment aims to prolong life and keep the person as comfortable as possible.

This page has been produced in consultation with, and approved by:

Cancer Council Victoria

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